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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,575	02/13/2004	Manabu Sawada	4041J-000843	9311

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HARNES, DICKEY & PIERCE, P.L.C.  
P.O. BOX 828  
BLOOMFIELD HILLS, MI 48303

EXAMINER

PASIA, REDENTOR M

ART UNIT	PAPER NUMBER
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2616

MAIL DATE	DELIVERY MODE
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08/09/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/779,575

Applicant(s)

SAWADA ET AL.

Examiner

Redentor M. Pasia

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/20/2004</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Priority***

Should applicant desire to obtain the benefit of foreign priority under 35 U.S.C. 119(a)-(d) prior to declaration of an interference, a certified English translation of the foreign application must be submitted in reply to this action. 37 CFR 41.154(b) and 41.202(e).

Failure to provide a certified translation may result in no benefit being accorded for the non-English application.

### ***Claim Objections***

Claims 18 and 24 objected to because of the following informalities:

As to claim 18, page 38, lines 27, "...to stores..." should be changed to "...to store..."

As to claim 24, page 41, line 26, "...to th another..." should be changed to "...to the another..."

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 9-10, 14, 22-24, 31-33 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for "a communication station for operating as a terminal station", does not reasonably provide enablement for "a communication station for operating as a base station." The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

As to claims 9 and 10, the specification is not enabling for a communication station operating as a base station to send ACK and NACK packets after the send packets are either correctly received or not.

As to claims 14, 22-24, 31-33, the specification is not enabling for a communication station operating as a base station to send registration and authentication packets to the terminal station; and not enabling for the base station (another communication station) to receive plurality of beacons from a terminal station.

Claims 13, 19-21, 28-30 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for "a communication station for operating as a base station", does not reasonably provide enablement for "a

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communication station for operating as a terminal station." The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

As to claims 13, 19-21, 28-30, the specification ~~is enabling~~ is not enabling for a communication station for operating as a terminal station which sends a single/plurality of beacons; and is not enabling for a terminal station to receive registration and authentication packet/s. ① 2

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 14, 22-24, 28-30 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14 recites the limitation "the another communication station" in page 36, line 8.

Claim 22 recites the limitation "the another communication station" in page 41, line 5.

Claim 28 recites the limitation "the another communication station" in page 44, line 8.

There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Kanerva et al. (US 6052385; hereinafter Kanerva).

As to claims 1, 8, Kanerva shows a radio communication system (abstract) comprising: a base station (Figure 6, BTS) and a terminal station (Figure 6, MS) provided as one and another communication stations, wherein the one communication station is constructed to send each of a plurality of send packets to the another communication station in parallel through a plurality of channels as one packet unit (abstract; col. 3, lines 17-21; Figure 5-6).

As to claim 2, Kanerva shows that the one communication station is constructed to send, after accumulation of n send packets has been completed, each of n send

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packets through  $n$  channels to the another communication station as one packet unit, the  $n$  being a natural number equal to or more than 2 (figure 6; abstract; col. 3, lines 17-21).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-7, 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanerva (US 6052385; hereinafter Kanerva) in view of Dahlman et al. (US 6907005 B1; hereinafter Dalhman).

As to claim 3, Kanerva shows all of the elements, except that the one communication station is constructed to send, after a predetermined period of time has elapsed before the accumulation of  $n$  send packets is completed, each of  $m$  send packets, accumulation of which has been completed in the predetermined period, through  $m$  channels to the another communication station as one packet unit, the  $m$  being a natural number and smaller than  $n$ .

When  $m=0$ , this situation still applies to the claim limitations shown above. In the occurrence when  $m=0$ , data transmission stops, connection between base station and mobile station is terminated. ( $m=0$  channels are utilized, and  $m=0$  packets are sent). Dalhman shows at col. 6, lines 59-67, Figure 7, the connection between sender and receiver has been terminated (block 30). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Kanerva to include the communication termination of Dalhman in order to restrict connections and also at the same time, open new connections to other stations.

As to claim 4, Kanerva shows all of the elements including the plurality of send packets and plurality of channels except that the another communication station is constructed to send an ACK packet to the one communication station as independent data through the plurality of channels with respect to each of a plurality of send packets received from the one communication station, after the send packet is normally received from the one communication station, the ACK packet indicating that each of the send packet has been normally received.

Dahlman shows that when the packet is correctly received, the receiver transmits an ACK signal back to the sender (col. 1, lines 50-52). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the multi-channel mobile network of Kanerva to include the ACK signal transmission of Dalhman as shown above in order to have reliable data delivery service that guarantees delivery of data units sent in different channels from one machine to another.



As to claim 5, modified Kanerva shows that the one communication station is constructed to resend the send packet which has not been normally received by the another communication station, to the another communication station after a predetermined period of time has elapsed before the ACK packet is received from the another communication station (Dalhman: col. 1, lines 50-52).

As to claim 6, Kanerva shows all of the elements except that the another communication station is constructed to send an ACK packet to the one communication station as independent data, after the send packet has been normally received from the one communication station, the ACK packet indicating that the send packet has been normally received, and wherein the another communication station is constructed to send a NACK packet to the one communication station as independent data after the send packet has not been normally received from the one communication station, the NACK packet indicating that the send packet has not been normally received.

Dalhman shows an ACK and NACK signal (col. 1, lines 50-52; col. 2, lines 2-4). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the multi-channel mobile network of Kanerva to include the ACK and NACK signals of Dalhman as shown above in order to have reliable data delivery service that guarantees delivery of data units sent in different channels from one machine to another.

As to claim 7, modified Kanerva shows the one communication station is constructed to resend the send packet, which has not been normally received by the another communication station, to the another communication station, after the NACK packet has been received from the another communication station (Dahlman: col. 2, lines 5-6).

As to claims 9-10, Kanerva shows a communication station for operating as a terminal station (figure 6), wherein the communication station is constructed to receive a plurality of send packets from another communication station and the plurality of channels (abstract; col. 3, lines 17-21; Figure 5-6). However, Kanerva does not show that the communication station is constructed to send an ACK packet and NACK packet to the another communication station as independent data through the plurality of channels with respect to each of the plurality of send packets received from the another communication station, after the send packet has been normally received from the another communication station, the ACK packet and NACK packet indicating that the send packet has been normally received.

Dalhman shows that when a packet is correctly received, the receiver transmits an ACK signal or NACK signal to the sender (col. 1, lines 50-52). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the multi-channel mobile network of Kanerva to include the ACK or NACK signal transmission of

Dalhman as shown above in order to have reliable data delivery service that guarantees delivery of data units sent in different channels from one machine to another.

Claims 11-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bender et al. (US 2004/0190471 A1) in view of Kanerva (US Kanerva US 6052385; hereinafter Kanerva).

As to claims 11 and 13, Bender shows a radio communication system (fig. 1) comprising: a base station (104) and a terminal station (102) provided as one and another communication stations, wherein the one communication station is constructed to send a beacon (Par. 0043; 202) in through a channel to the another communication station as independent data through the channel, the beacon corresponding to the channel, the another communication station is constructed to send registration packet (Par. 0043; 204; Par. 0021; 204 includes an MSI) and authentication packet the channel (Par. 0043; 204; Par. 0021; 204 also includes data that identifies the signal's characteristics.) to the one communication station as independent data through after the beacon has been received from the one communication station, and the one communication station is constructed to send packet indicating whether a registration is correct or not and each of packet indicating whether an authentication is correct or not in the channel to the another communication station as independent data, each packet corresponding to the channel, after the registration packet and the authentication packet is received from the another communication station (Par. 0021; after sending 204, the

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mobile station can begin using the channel and transmit data to the base station.).

However, Bender does not show a plurality of channels where plurality of beacons, registration, authentication packets are sent.

Kanerva shows a plurality of channels (Fig. 6). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Bender to utilize the plurality of channels by transmitting beacons, registration, authentication packets through these channels as shown by Kanerva above in order to have redundancy and a reliable communication path for transmissions.

As to claim 12, modified Bender shows that the one communication station is constructed to send the plurality of beacons to the another communication station synchronously, wherein the another communication station is constructed to send the plurality of registration packets and the plurality of authentication packets to the one communication station synchronously, and wherein the one communication station is constructed to send to the another communication station synchronously the plurality of packets indicating whether the registration is correct or not and the plurality of packets indicating whether the authentication is correct or not (Bender: Par. 0021, 0033, 0043; Kanerva: Figure 6, abstract, col. 3, lines 17-21).

As to claim 14, Bender shows a communication station for operating as a terminal station, wherein the communication station is constructed to send registration

packets authentication packets, after a beacon is received from the another communication station (abstract; Par. 0021, 0043). However, Bender does not show parallel channels.

Kanerva shows a plurality of channels (Fig. 7). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Bender to utilize the plurality of channels by transmitting beacons, registration, authentication packets through this channels as shown by Kanerva above in order to have redundancy and a reliable communication path for transmissions.

As to claims 15-16, these claims are rejected for the same reasoning as set forth in the rejection of claims 11-12, respectively.

As to claim 17, modified Bender shows wherein the one communication station is constructed to store in each of the plurality of beacons a communication station identifier of the one communication station individually designated every communication station, and send each of the plurality of beacons, in which the communication station identifiers of the one communication station is stored, to the another communication station (Par. 0048), and wherein the another communication station is constructed to recognize that the communication station identifier of the one communication station stored in each of a plurality of beacons received from the one communication station is common to the plurality of channels, and sends each of the plurality of registration

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packets and the plurality of authentication packets to the one communication station (Par. 0048, 0033).

As to claim 18, modified Bender shows that the another communication station is constructed to stores in each of the plurality of registration packets and the plurality of authentication packets the another communication station identifier individually designated every communication station, and sends each of the plurality of registration packets and the plurality of authentication packets, in which the another communication station identifiers are stored, to the one communication station (Par. 0033, 0043, 0045; MSI), and wherein the one communication station is constructed to recognize that another communication station identifier stored in each of a plurality of registration packets and a plurality of authentication packets received from the another communication is common to the plurality of channels, and send each of the plurality of packets indicating whether the registration is correct or not, and the plurality of packets, of which the authentication is correct or not, to the another communication station (Par. 0021, 0033, 0043, 0045; MSI).

As to claims 19 and 22, these claims are rejected for the same reasoning as set forth in the rejection of claim 15.

As to claim 20, this claim is rejected for the same reasoning as set forth in the rejection of claim 17.

As to claims 21 and 23, these claims are rejected for the same reasoning as set forth in the rejection of claim 18

As to claim 24, this claim is rejected for the same reasoning as set forth in the rejection of claim 17.

As to claim 25, Bender shows a radio communication system (figure 1) comprising: a base station (104) and a terminal station (102) provided as one and another communication stations, wherein the one communication station is constructed to send a single beacon (Par. 0042; 202), which representatively corresponds to a channel, through a single exclusive channel to the another communication station, and wherein the another communication station is constructed to send a single registration packet (Par. 0043; 204; Par. 0021; 204 includes an MSI) and a single authentication packet (Par. 0043; 204; Par. 0021; 204 also includes data that identifies the signal's characteristics.), which representatively correspond to the channel, through the single exclusive channel to the one communication station after the single beacon has been received from the one communication station, and wherein the one communication station is constructed to send a single packet indicating whether a registration is correct or not and a single packet indicating whether an authentication is correct or not, each of such packets representatively corresponding to the channel, through the single exclusive channel to the another communication station, after the single registration packet and the single authentication packet are received from the another

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communication station (Par. 0021; after sending 204, the mobile station can begin using the channel and transmit data to the base station.). However, Bender does not show a plurality of channels where a beacon, registration, authentication packet is sent.

Kanerva shows a plurality of channels (Fig. 6). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Bender to utilize the plurality of channels by transmitting beacon, registration, authentication packet through these channels as shown by Kanerva above in order to have redundancy and a reliable communication path for transmissions.

As to claim 26, modified Bender shows that the one communication station is constructed to store in the single beacon a communication station identifier of the one communication station individually designated every communication station, and send the single beacon, in which the communication station identifier of the one communication station is stored, to the another communication station (Par. 0048), and wherein the another communication station is constructed to recognize that the communication station identifier of the one communication station stored in the single beacon received from the one communication station is common to the plurality of channels, and send the single registration packet and the single authentication packet to the one communication station (Par. 0048, 0033).



As to claim 27, modified Bender shows that the another communication station is constructed to store in a single registration packet and a single authentication packet a communication station identifier of the another communication station individually designated every communication station, and send a single registration packet and a single authentication packet, in which the communication station identifier of the another communication station is stored, to the one communication station (Par. 0033, 0043, 0045; MSI), and wherein the one communication station is constructed to recognize that the communication station identifier of the another communication station stored in the single registration packet and the single authentication packet is common to the plurality of channels, and send a single packet indicating whether a registration is correct or not and a single packet indicating whether an authentication is correct or not, to the another communication station (Par. 0021, 0033, 0043, 0045; MSI)..

As to claims 28 and 31, the same rejection is used as in claim 25.

As to claim 29, the same rejection is used as in claim 26.

As to claims 30 and 32, the same rejection is used as in claim 27.

As to claim 33, the same rejection is used as in claim 26.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Rasanen (US 6674741 B1) – note abstract.

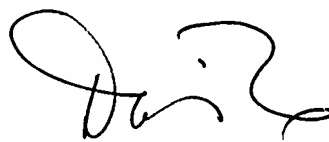
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Redentor M. Pasia whose telephone number is 571-272-9745. The examiner can normally be reached on M-F 7:30am to 5:00pm EST, alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris H. To can be reached on (571)272-7629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Redentor Pasia

  
**DORIS H. TO**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2600**